

Ref.: T2/6.06

RELAYS OF DISTRESS ALERTS BY DIGITAL SELECTIVE CALLING

1 The Sub-Committee on Radiocommunications and Search and Rescue (COMSAR), at its first session (19 to 23 February 1996), considering the need to clarify procedures for relay of distress alerts by ships and to enhance procedures for avoiding false distress alerts, decided that semi-automatic¹ and automatic² relays of distress alerts by digital selective calling (DSC) should not be permitted in the GMDSS. Distress alert relays should instead be activated manually³.

2 The COMSAR Sub-Committee prepared the attached modifications to Recommendation ITU-R M.541-5 on operational procedures for the use of DSC equipment in the maritime mobile service and advised Study Group 8 of the International Telecommunication Union (ITU) Radiocommunication Sector (ITU-R) of these recommended modifications as well as the need to modify Recommendation ITU-R M. 493-6 on technical standards for DSC systems in the maritime mobile service.

3 Member Governments are requested to ensure that all existing shipborne DSC equipment which has been approved for the GMDSS and which has a provision for automatic and semi-automatic relays of distress alerts are modified so as to be in conformity with Recommendation ITU-R M.541-5, as it is expected to be amended by the proposed modifications.

4 Member Governments are invited to request manufacturers and shipowners to disable, as a matter of urgency, these automatic and semi-automatic relay features of shipborne DSC equipment and to advise users of such equipment to immediately cease transmitting these types of distress alert relays.

¹ **Semi-automatic:** An operator receiving an unacknowledged distress alert on DSC, presses a button which transmits a DSC distress relay signal. The MMSI and position of the distressed ship is automatically derived from the received distress alert, but can also be manually entered by the operator. All GMDSS DSC radios have this feature.

² **Automatic:** A DSC radio receiving alert, transmits a DSC distress relay signal if the alert has not been acknowledged within five minutes, or if a second alert from the distress ship is received. No action by a radio operator is necessary. Only certain GMDSS DSC radios have this feature.

³ **Manual:** A ship radio operator receiving a DSC distress alert that has not been acknowledged by an RCC, sets up a call to an RCC using DSC or Inmarsat. Once a call is set up, the operator provides the RCC watchstander known information concerning the distress. All GMDSS DSC radios have this feature.

ANNEX

PROPOSED MODIFICATIONS TO RECOMMENDATION ITU-R M.541-5

*"Procedures and operational instructions for DSC- Distress Calls"***General**

The proposed changes in procedures and operational instructions for DSC for distress purposes are referred to documents from **ITU Radiocommunication Study Group-8**; Recommendation ITU-R M.541-5 with reference to its annex 1 and annex 3.

Introduction

- 1 RCC Stavanger have, through the last 3 years since the implementation of GMDSS started 1 February 1992, had some experience with the GMDSS. In general the experience with GMDSS indicates an improvement of the possibilities for a ship in distress to alert a coast station (CRS) or a rescue co-ordination centre (RCC). But there are also experienced an enormous increase in false or inadvertent distress alerts, which mainly are caused by the Digital Selective Calling, DSC (100 % false or inadvertent distress alerts).
- 2 These false or inadvertent distress alerts have been studied to find what the reason might be. From our point of view we are convinced that this is caused by a combination of:
 - Lack of knowledge and understanding of the DSC system by operators both at sea and ashore;
 - lack of knowledge by operators on how the equipment works;
 - equipment design;
 - slightly improper procedures, which might be misinterpreted by operators.
- 3 At the 12th North Sea/Baltic DSC meeting Norway presented a document (Doc 12/3/4) with proposals for changes in the DSC Operational procedures. The meeting agreed to support the main philosophy with the proposed changes, with respect to Rec 541 annex 1 paragraph 3.3 and annex 3 part A paragraph 1.2.
- 4 With reference to the conclusions made at the meeting, and with some additions, Norway has made some revised proposals in an attempt to clarify and improve the operational procedures. The proposals are made specifically with respect to annex 1 and to annex 3, part A:
 - § 1.2 acknowledgement of DSC distress alert (renamed)
 - § 1.3 distress traffic, (to ascertain the correct position of a distress incident).
 - § 1.4 transmission of a DSC distress relay alert;
 - § 1.5 acknowledgement of a DSC distress relay alert received from a coast station (to ensure use of radiotelephony when acknowledging and to avoid unnecessary acknowledgement of distress relays)

These proposed modifications are listed on pages 2, 3 and 4 of this annex.

With reference to: **Recommendation ITU-R M.541-5 Annex 1, Provisions and procedures for distress and safety calls**

(The proposals are shown by underline for additions and cross out for deletions respectively.)

Paragraph 3.3 - **ACKNOWLEDGEMENT OF DISTRESS CALLS**

Reverse the order of paragraphs:

present paragraph 3.3.3 should become paragraph 3.3.1 reword and renumber existing paragraph 3.3.1 to become 3.3.2 renumber existing paragraph 3.3.2 to become paragraph 3.3.3 which then should read:

- 3.3.1 Distress calls should normally be acknowledged by DSC only by appropriate coast stations. Coast stations should in addition, set watch on radiotelephony and, if the "mode of subsequent communication" signal in the received distress call indicates teleprinter, also on narrow-band direct-printing (NBDP) (see Recommendation ITU-R M.493). In both cases, the radiotelephone and NBDP-frequencies should be those associated with the frequency on which the distress call was received.
- 3.3.2 Acknowledgement by coast stations of DSC distress calls transmitted on MF and HF should be initiated with a minimum delay of 1 minute after receipt of a distress call, and normally within a maximum delay of 2 ³/₄ minute. This allows all calls within a single frequency or multi-frequency call attempt to be completed. Acknowledgements by coast stations on VHF should be transmitted as soon as practicable.
- 3.3.3 The acknowledgement of a distress call consists of a single DSC acknowledgement call which should be addressed to "all ships" and include the identification (see Recommendation ITU-R M.493) of the ship whose distress call is being acknowledged.

With reference to: **Recommendation ITU-R M.541-5 Annex 3, Part A - Instructions for ships**

Paragraph 1.2 **ACKNOWLEDGEMENT OF A DSC DISTRESS ALERT**

Title is renamed to read:

1.2 ACTIONS ON RECEIPT OF A DSC DISTRESS ALERT

Ships receiving a DSC distress alert from another ship should not normally acknowledge the alert by DSC since acknowledge of a DSC distress alert by use of DSC is normally made by coast stations only.

Only if no other station seems to have received the DSC distress alert, and the transmission of the DSC distress alert continues, the ship should acknowledge the DSC distress alert by use of DSC to terminate the call. The ship should then, in addition, inform a coast station or a coast earth station by any practicable means.

Ships receiving a distress alert from another ship should also defer the acknowledgement of the distress alert by radiotelephony for a short interval, if the ship is within an area covered by one or more coast stations, in order to give the coast station time to acknowledge the DSC distress alert first.

Ships receiving a DSC distress alert from another ship shall:

- watch for the reception of a distress acknowledgement on the distress channel (2187,5 kHz on MF and channel 70 on VHF);
- acknowledge the receipt of the distress alert by transmitting the following by radiotelephony on the distress traffic frequency in the same band in which the DSC distress alert was received, i.e. 2182 kHz on MF and channel 16 on VHF.

NOTE 1 - Ships out of range of a distress event or not able to assist should only acknowledge if no other stations seem to acknowledge the receipt of the DSC distress relay alert.

- Acknowledging procedures:
- MAYDAY
 - the 9-digit identity of the ship in distress, repeated 3 times,
 - this is,
 - the 9-digit identify or the call sign or other identification of own ship, repeated 3 times,
 - RECEIVED MAYDAY

Paragraph 1.3 DISTRESS TRAFFIC

- Modify the fourth indent as follows:
 - | the ship's position if not included in the DSC distress alert in latitude and longitude or other reference to a known geographical location.

Paragraph 1.4 TRANSMISSION OF A DSC DISTRESS RELAY ALERT

- add a new last indent as follows:
 - prepare for the subsequent distress traffic by tuning the transmitter and the radiotelephony receiver to

the distress traffic channel in the same band, i.e. 2182 kHz on MF and channel 16 on VHF, while waiting for the DSC distress acknowledgement.

Paragraph 1.5 ACKNOWLEDGEMENT OF A DSC DISTRESS RELAY ALERT RECEIVED FROM A COAST STATION

- Coast stations ~~will~~, after having received and acknowledged a DSC distress alert, ~~normally~~ | may, if necessary, retransmit the information received as a DSC distress relay call, addressed to all ships, all ships in a specific geographical area, a group of ships or a specific ship.

- Ships receiving a distress relay call transmitted by coast stations shall not use DSC to acknowledge the call, but should acknowledge the call by radiotelephony on the distress traffic channel in the same band in which the relay call was received, i.e. 2182 kHz on MF and channel 16 on VHF.

The acknowledgement is transmitted as follows:

- MAYDAY
- The 9-digit identity or the call sign or other identification of the calling coast station,
- this is,
- the 9-digit identity or the call sign or other identification of own ship,
- RECEIVED MAYDAY

NOTE 1 - Ships out of range of a distress event or not able to assist should only acknowledge if no other stations seem to acknowledge the receipt of the DSC distress relay alert.
